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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/033,429	12/27/2001	Craig Schultz	42390.P13389	9072

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EXAMINER	
PHAN, HANH	

ART UNIT	PAPER NUMBER
2633	

DATE MAILED: 03/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/033,429	SCHULTZ ET AL.	
	Examiner	Art Unit	
	Hanh Phan	2633	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 December 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *03/18/2002*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 4 and 11 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

-In claim 4, lines 1 and 2, the feature "**the metal shield is comprised at least partially of copper**" is not described in the specification.

-In claim 11, lines 1 and 2, the feature "**the metal shield is comprised at least partially of copper**" is not described in the specification.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1-3, 7-10 and 14-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim (Pub No. US 2001/0021051 A1) in view of Lacey (US Patent No. 6,271,465 cited by applicant).

Regarding claims 1 and 16, referring to Figures 2 and 3, Kim discloses a transmitter (Fig. 2) comprising:

an oscillator (i.e., VCO 146, Fig. 3);

a Phase Lock Loop (PLL)(i.e., PLL 140, Figs. 2 and 3) coupled to the oscillator (VCO 146)(paragraph [0066]);

a serializer (i.e., parallel/serial data converter 110, Fig. 2) coupled to receive a clock signal from the PLL (140) and to provide serial data; and

an electrical-to-optical converter (i.e., VCSEL 180, Fig. 2) coupled to the serializer (110) to convert the serial data to optical signals (paragraphs [0041], [0048], and [0066]).

Kim differs from claims 1 and 16 in that he fails to teach the oscillator enclosed in a metal shield. However, Lacey in US Patent No. 6,271,465 teaches an electrical circuitry disposed on a printed circuit board and contained within a housing (Figs. 1 and 2, col. 1, lines 44-56). Therefore, it would have been obvious to one having skill in the art at the time the invention was made to incorporate the electrical circuitry enclosed in a metal shield case as taught by Lacey in the system of Kim. One of ordinary skill in the art would have been motivated to do this since Lacey suggests in column 1, lines 44-56 that using such the electrical circuitry enclosed in a metal shield case have advantage

of allowing preventing an affection of the electromagnetic waves for the other circuit parts specifically a generation of radiation noise.

Regarding claims 2 and 18, the combination of Kim and Lacey teaches the metal shield is soldered to a ground ring on a printed circuit board (see Figs. 1 and 2 of Lacey, col. 1, lines 35-56).

Regarding claims 3 and 10, the combination of Kim and Lacey teaches the ground ring is electrically coupled to one or more ground planes of the printed circuit board (see Figs. 1 and 2 of Lacey, col. 1, lines 35-56).

Regarding claims 7, 15 and 17, Kim further teaches the oscillator is a voltage-controlled oscillator (Fig. 3).

Regarding claim 8, referring to Figures 2 and 3, Kim discloses a transceiver comprising:

a receiver (i.e., photodiode 190, Fig. 2); and

a transmitter (i.e., VCSEL 180, Fig. 2), the transmitter comprising an oscillator (146)(Fig. 3), a phase lock loop (140)(Fig. 2) coupled to the oscillator (see paragraphs [0041], [0048], and [0066]).

Kim differs from claim 8 in that he fails to teach the oscillator enclosed in a metal shield and the metal shield coupled to a ground ring of the printed circuit board. However, Lacey in US Patent No. 6,271,465 teaches an electrical circuitry disposed on a printed circuit board and contained within a housing and the metal shield coupled to a ground ring of the printed circuit board (Figs. 1 and 2, col. 1, lines 44-56). Therefore, it would have been obvious to one having skill in the art at the time the invention was

made to incorporate the electrical circuitry enclosed in a metal shield case as taught by Lacey in the system of Kim. One of ordinary skill in the art would have been motivated to do this since Lacey suggests in column 1, lines 44-56 that using such the electrical circuitry enclosed in a metal shield case and the metal shield coupled to a ground ring of the printed circuit board have advantage of allowing preventing an affection of the electromagnetic waves for the other circuit parts specifically a generation of radiation noise.

Regarding claim 9, Kim further teaches the transmitter further comprises: a serializer (110)(Fig. 2) to receive a clock signal from the phase lock loop (140)(Fig. 2) and to provide serial data, and a converter (180)(Fig. 2) coupled to the serializer to convert the serial data to optical signals.

Regarding claim 14, the combination of Kim and Lacey further teaches an electrically-conductive gasket disposed between the metal shield and the ground ring (see Figs. 1 and 2 of Lacey, col. 5, lines 24-38).

5. Claims 4 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim (Pub No. US 2001/0021051 A1) in view of Lacey (US Patent No. 6,271,465 cited by applicant) and further in view of Tsuge et al (Pub No. US 2002/0080593 A1).

Regarding claims 4 and 11, Kim as modified by Lacey teaches all the aspects of the claimed invention except fails to teach the metal shield is comprised at least partially of copper. However, Tsuge teaches the metal shield is comprised at least partially of copper (see paragraph [0047]). Therefore, it would have been obvious to one having

skill in the art at the time the invention was made to incorporate the metal shield is comprised at least partially of copper as taught by Tsuge in the system of Kim modified by Lacey. One of ordinary skill in the art would have been motivated to do this since Tsuge suggests in paragraph [0047] that using such the metal shield is comprised at least partially of copper have advantage of allowing providing a shield case which can be preventing an affection of the electromagnetic waves for the other circuit parts specifically a generation of radiation noise and the shield case becomes lighter and reducing the cost of device.

6. Claims 5, 6, 12, 13, 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim (Pub No. US 2001/0021051 A1) in view of Lacey (US Patent No. 6,271,465 cited by applicant) and further in view of Kitade (US Patent No. 6,687,135).

Regarding claims 5, 6, 12, 13, 19 and 20, Kim as modified by Lacey teaches all the aspects of the claimed invention except fails to teach the metal shield has one or more positioning protrusions that enter into holes in the printed circuit board. However, Kitade teaches the metal shield has one or more positioning protrusions that enter into holes in the printed circuit board (Fig. 2, col. 4, lines 24-65 and col. 5, lines 4-10). Therefore, it would have been obvious to one having skill in the art at the time the invention was made to incorporate the metal shield has one or more positioning protrusions that enter into holes in the printed circuit board as taught by Kitade in the system of Kim modified by Lacey. One of ordinary skill in the art would have been motivated to do this since Kitade suggests in column 4, lines 24-65 and col. 5, lines 4-

10 that using such the metal shield has one or more positioning protrusions that enter into holes in the printed circuit board have advantage of allowing providing the high reliability of the connection of the shield case with the printed circuit board.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Maeda (US Patent No. 5,353,201) discloses shield device for printed circuit boards.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hanh Phan whose telephone number is (571)272-3035.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan, can be reached on (571)272-3022. The fax phone number for the organization where this application or proceeding is assigned is (703)872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)305-4700.

HANH PHAN
PRIMARY EXAMINER